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(54) **TWO-PART CONNECTING RING**

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USPC 63/15.1
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

1,712,417	A *	5/1929	Beaujard, Jr.	A44C 9/003 63/15.3
5,228,316	A *	7/1993	Meyrowitz	A44C 17/0258 63/15.4
6,484,536	B1 *	11/2002	Gould	A44C 9/0023 63/15
2010/0050690	A1 *	3/2010	Woodward	A44C 5/0007 63/15.1

FOREIGN PATENT DOCUMENTS

EP	1767113	A1 *	3/2007	A44C 9/0023
FR	2440704	A1 *	6/1980	A44C 9/0023
WO	WO-2004095969	A1 *	11/2004	A44C 9/0023

* cited by examiner

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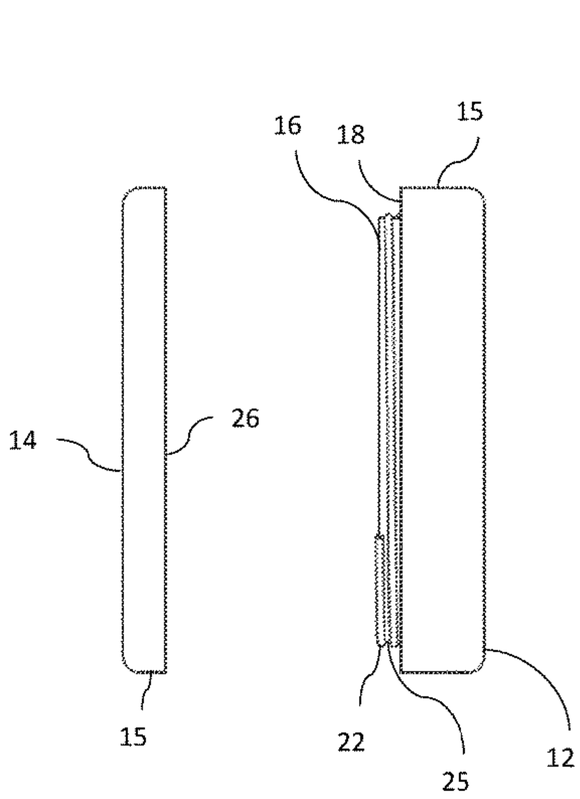
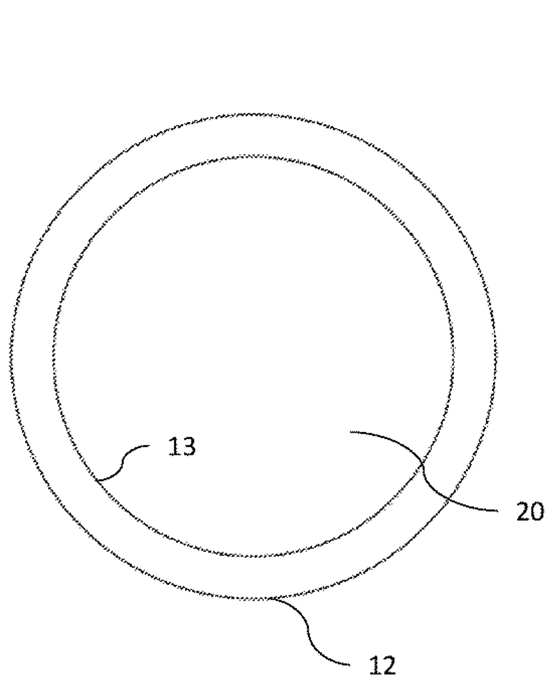
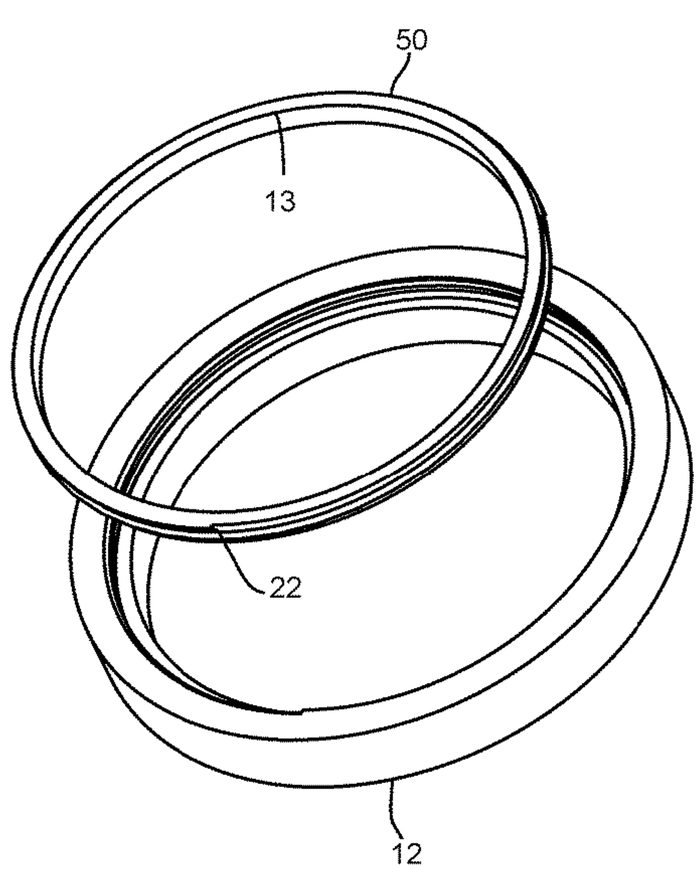
(57) **ABSTRACT**

A ring system having a first ring and a second ring, each ring having an inner circumferential surface, an outer circumferential surface, a first surface and an opposing second surface. The first ring and the second ring each have a fastener on the respective first surfaces and the first ring and the second ring each releasably fasten to each other causing the first surfaces of the rings to abut. Each outer circumferential surface has an outer diameter, the outer diameter being the largest diameter of the outer circumferential surface. The first ring and the second ring each have an edge where the first surface and the outer circumferential surface intersect. The diameter of the edge of the first ring is equal to the outer diameter of the first ring and the diameter of the edge of the second ring is equal to the outer diameter of the second ring.

20 Claims, 8 Drawing Sheets







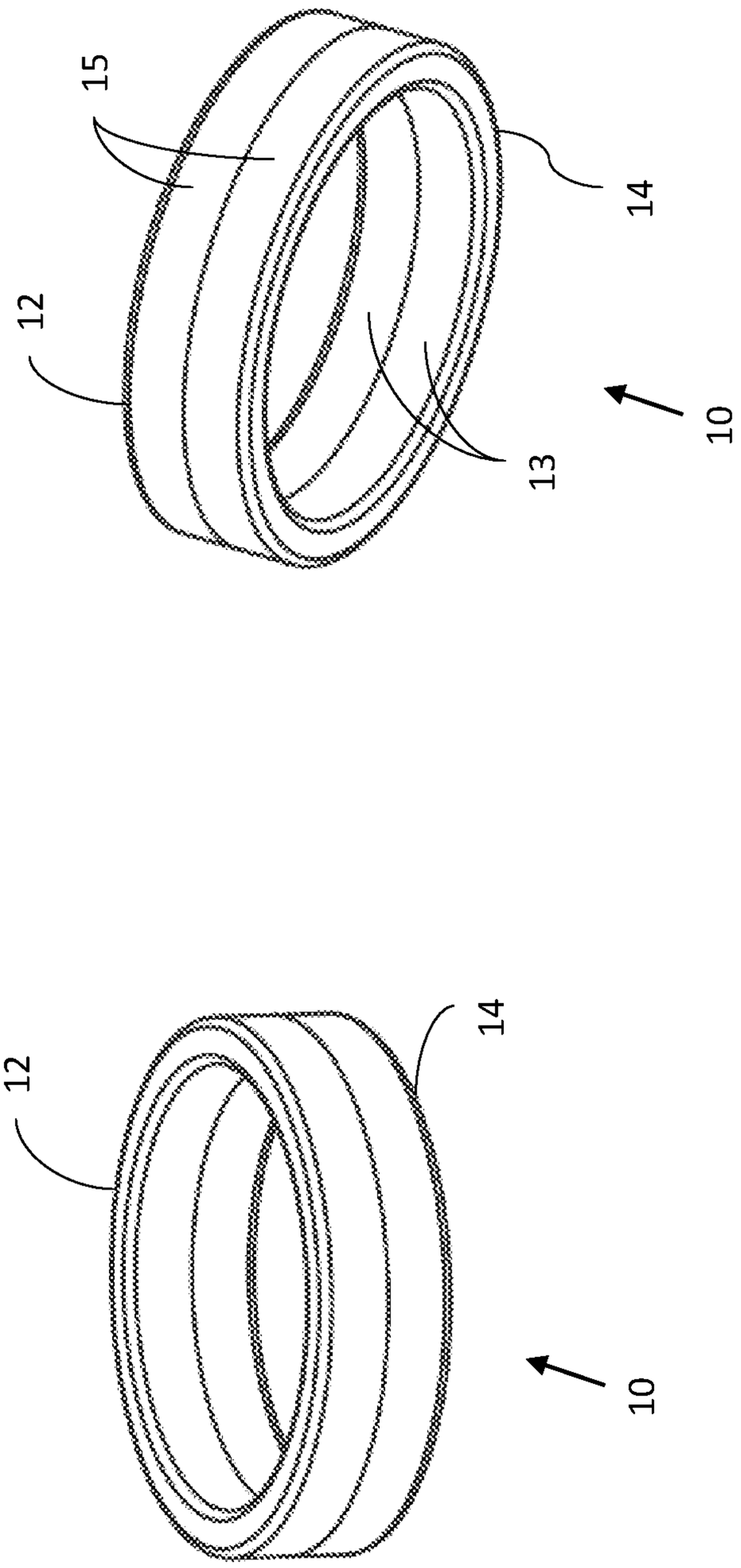


Figure 1

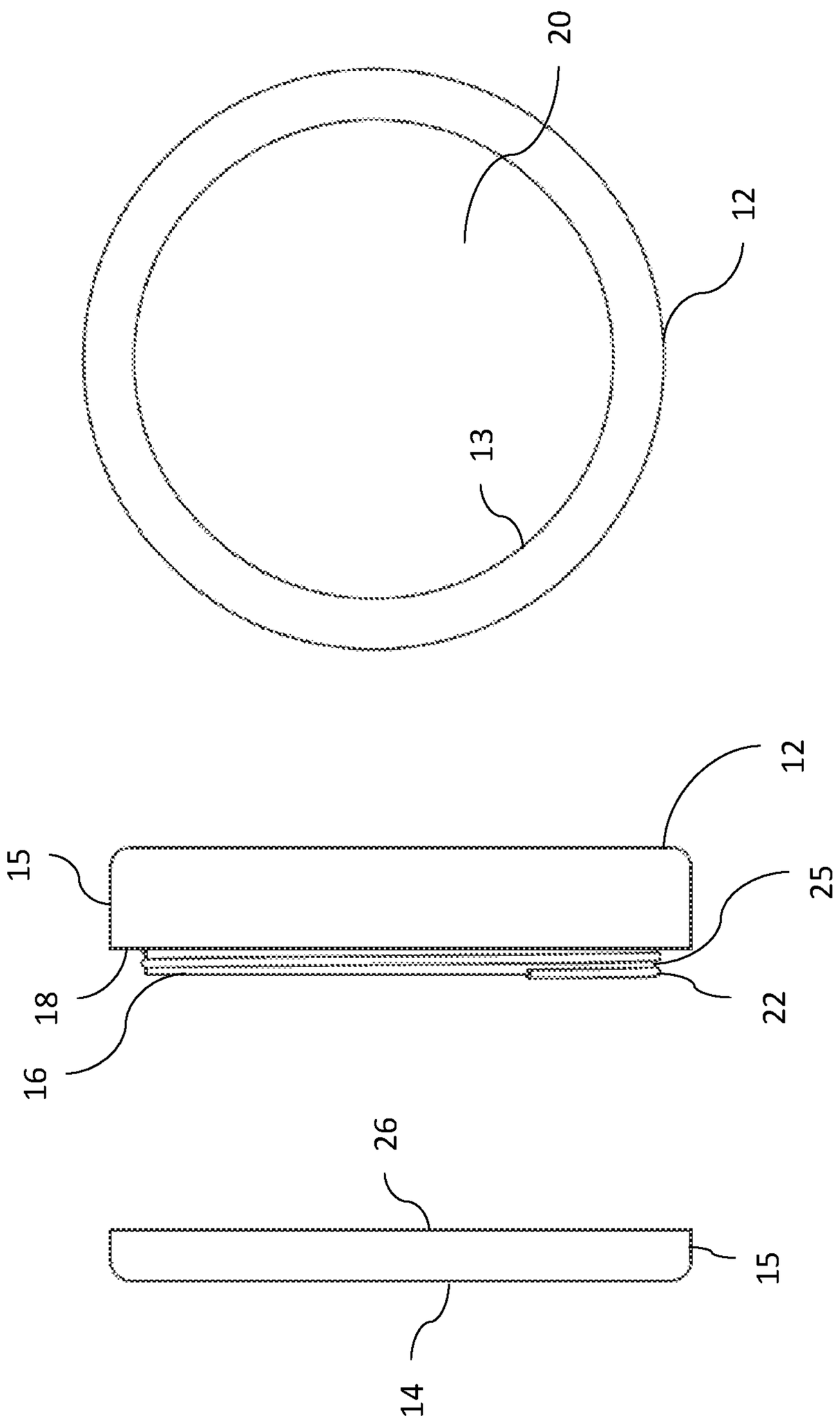


Figure 2

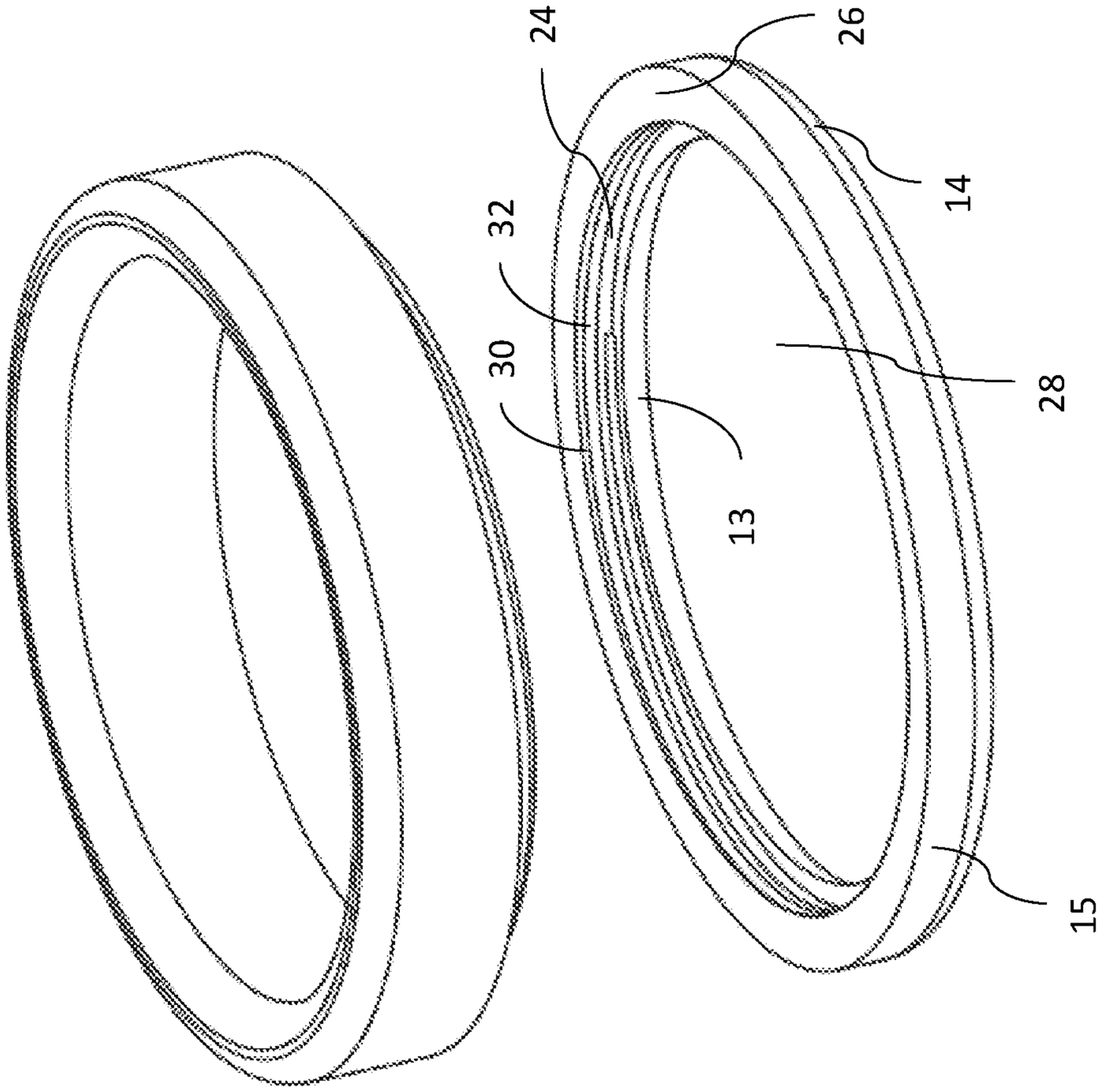


Figure 3

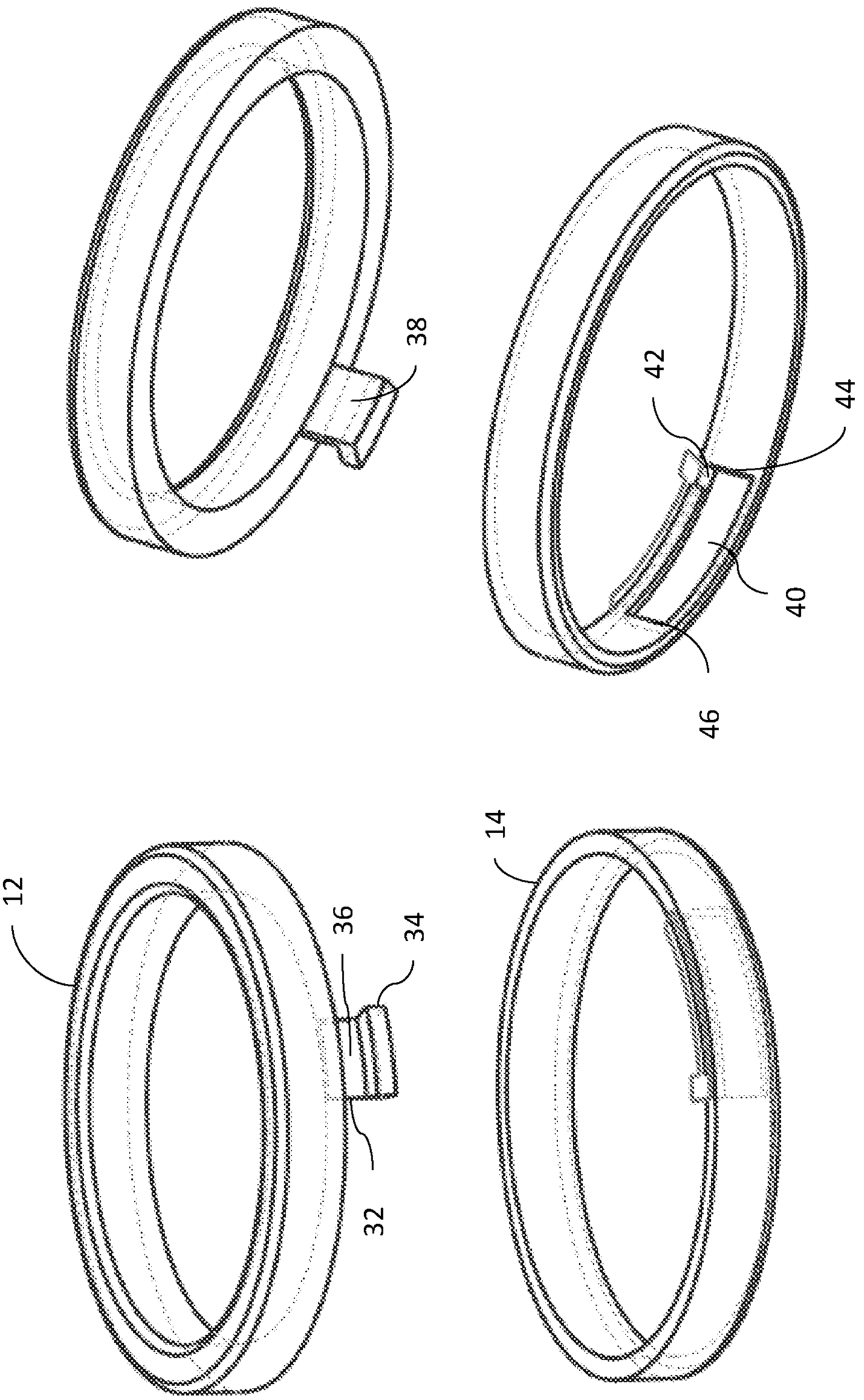


Figure 4

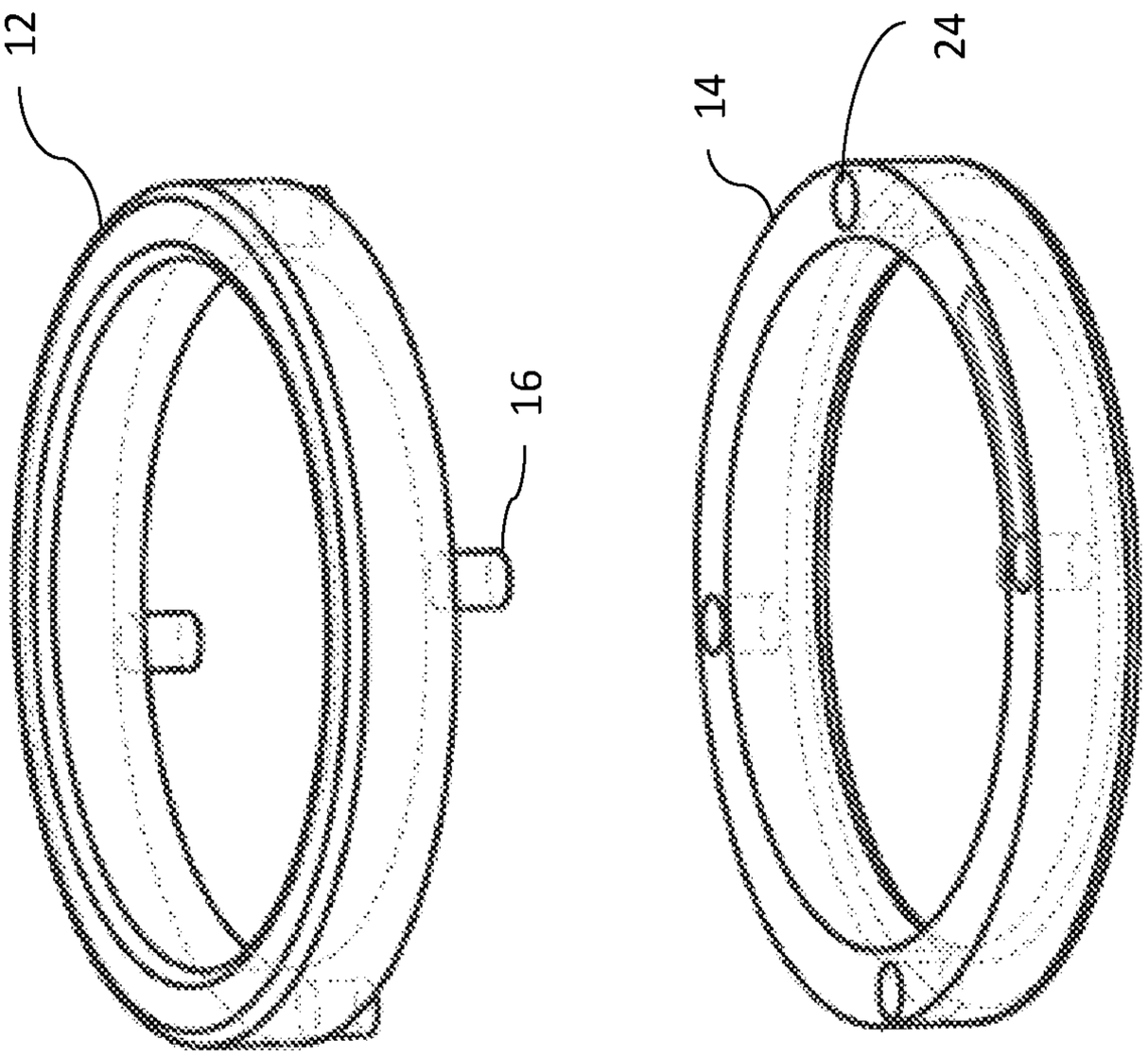


Figure 5

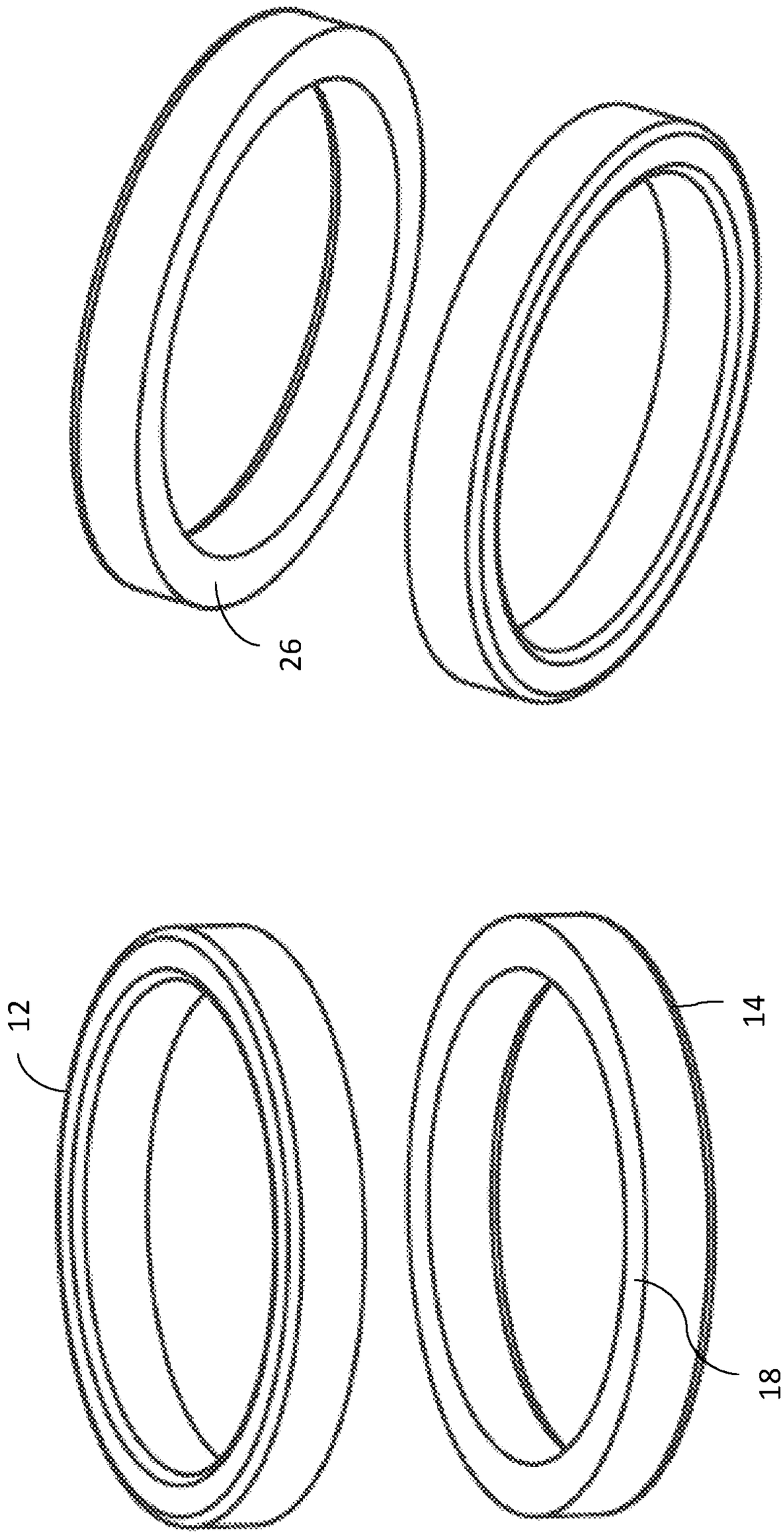


Figure 6

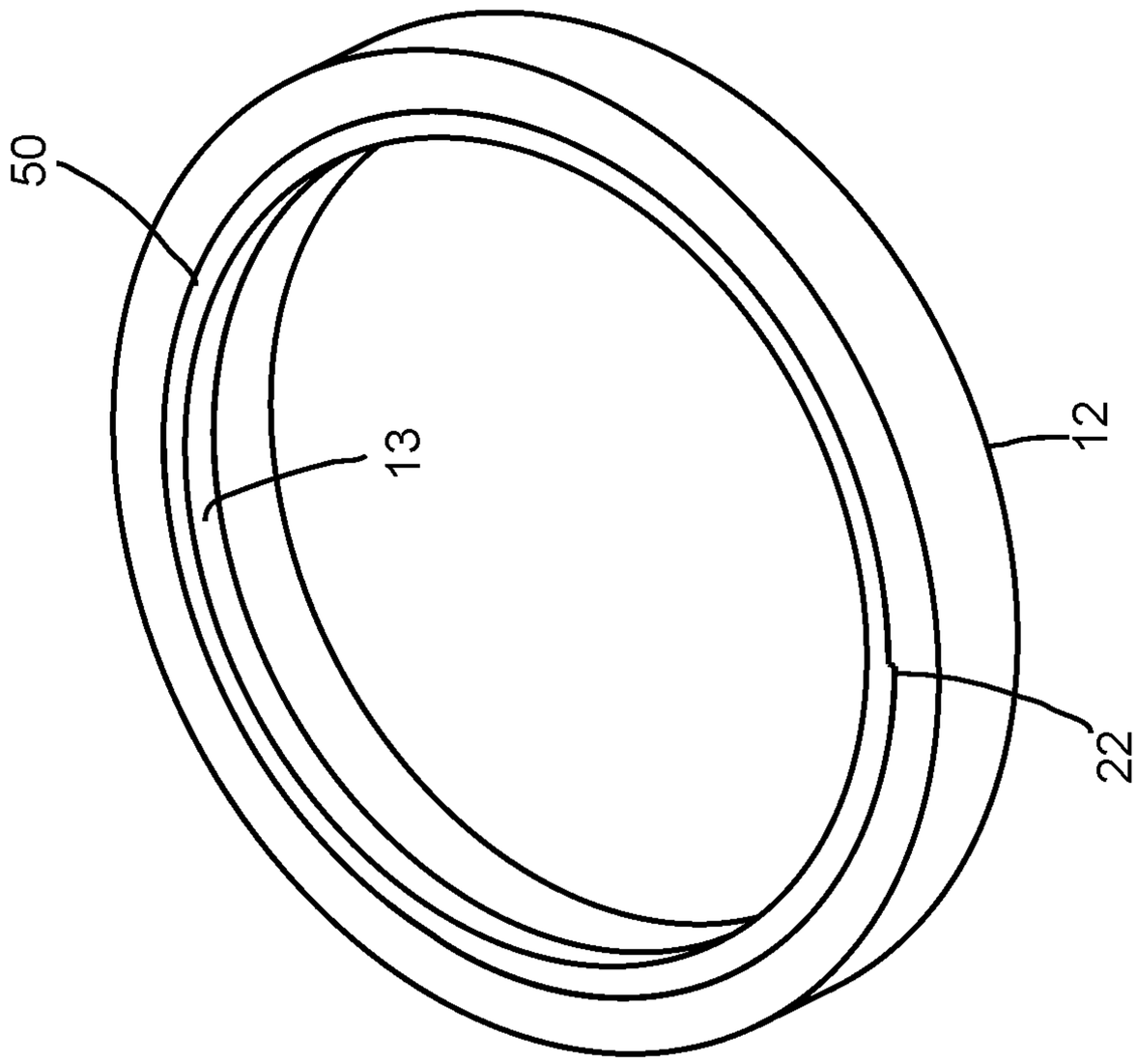


Figure 7

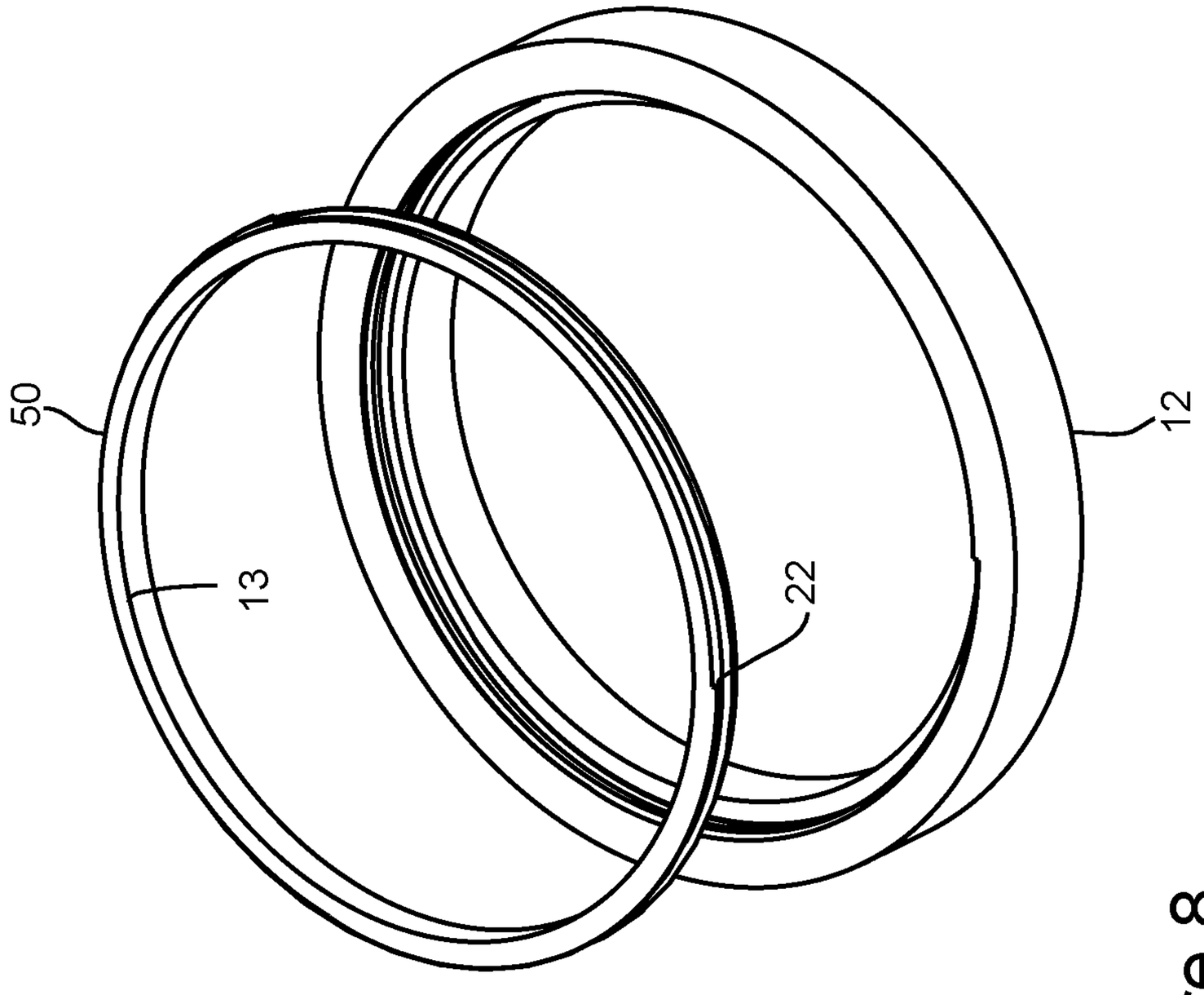


Figure 8

TWO-PART CONNECTING RING

TECHNICAL FIELD

The present teaching is related to the field of connectable jewelry rings and different elements used to connect them.

BACKGROUND

Rings can be worn for practical, religious, and aesthetic reasons. Rings can serve as jewelry, protection, or identification devices. The typical design of a ring is circular in shape with an opening through which an appendage, often a finger or toe, is passed. A ring through which an appendage has passed through its opening is considered to be "worn." Rings can be retained on the appendage by sizing them such that they do not freely slide along the appendage during average appendage movement. Rings can also be retained on an appendage through use of a mechanism that decreases the size of the opening or closes the ring around the appendage.

More than one ring can be worn on a single appendage. The number, type, and sequence of rings worn on a single appendage can be selected because of personal preference, religious ritual or requirement, aesthetic value, fashion, practical considerations, sentimental considerations, conspicuous consumption, communication or signaling, or any combination of these reasons. When worn, rings can butt against each other on the appendage. When removed from the appendage, the multiple rings often are not connected together such that a wearer must remember which order they were in when removed. A device that fixes at least two rings together is needed in situations where the positional relationship of at least two rings on a single appendage is desired. The device disclosed herein relates to providing at least two rings that are fastenable to each other into one assembly such that they may be worn on a single appendage.

It is known in the art ring systems that are constructible from two rings having corresponding threads. However, these systems have a groove to retain a third piece, an inlay, and are undesirable when an inlay is not provided. Further, known ring systems do not provide individual rings that are desirable to wear. This is due to the individual rings having unpleasing visual appearance or rough or sharp surfaces and edges which can be irritating to a wearer. The ring system disclosed herein provides a wearer with at least one ring that is aesthetically pleasing and comfortable to wear independently from it corresponding ring of the ring system. Further, the disclosed ring system provides a pair of rings that assemble into one ring that does not require an inlay to be aesthetically pleasing. This is due to the two rings creating an aesthetically pleasing surface over the junction where the two rings connect. The two rings can create this surface by joining to create a smooth and continuous surface, or to have complementary features that together create a coherent design.

Further, a degree of customizability of a ring's design is desired. The material and configuration of a ring cannot be changed after a ring is manufactured. It is desired that there be a ring assembly made up of at least two rings that is assemblable and disassemblable by a user without the use of tools. Such a device should allow a user to mix and match combinations of rings made of different materials and shaped in different ways.

As such, there is a need for a device that provides at least two rings that are releasably fastened together such that their openings are coaxial and concentric to each other.

A notable advantage to providing a device where multiple rings can be releasably fastened is that they can be worn, removed from an appendage, and stored as one assembly. This feature can help a user store rings without the risk of misplacing a ring. A user can save time by putting the ring assembly on instead of multiple rings. A user can wear a plurality of rings in the same order on their finger without having to remember which order the rings go in. A user can make a fashion statement by wearing a ring assembly that, by assembling a plurality of rings into one assembly, looks like a single ring.

SUMMARY

The needs set forth herein as well as further and other needs and advantages are addressed by the present examples, which illustrate solutions and advantages described below.

The system of the present embodiment includes, but is not limited to the following examples.

One example of a ring system can include a first ring and a second ring, the first ring and the second ring each having an inner circumferential surface and an outer circumferential surface. The first ring and the second ring can each have a first surface and a second surface, the second surface opposing the first surface. The first ring and the second ring can each have a fastener on the respective first surfaces, the first ring and the second ring each releasably fastenable to each other using the fasteners to make a fastened state. The first and the second surfaces each radially extend from the inner circumferential surface to the outer circumferential surface. The first surface of the first ring and the first surface of the second ring abut each other when the first ring and the second ring are in the fastened state. Each outer circumferential surface having an outer diameter, the outer diameter being the largest diameter of the outer circumferential surface. The first ring and the second ring each having an edge where the first surface and the outer circumferential surface intersect, the diameter of the edge of the first ring being equal to the outer diameter of the first ring and the diameter of the edge of the second ring being equal to the outer diameter of the second ring.

Another example can include the ring system having the fastener of the first ring having a protrusion. The protrusion can have an outer circumferential surface smaller in diameter than the outer diameter of the first ring. The first surface of the second ring can have a cavity into which the protrusion of the first ring extends.

Another example can include the first ring having a magnet and the second ring having magnetic material.

Another example can include the first ring having magnetic material and the second ring having a magnet.

Another example can include the fastening feature of the first ring and of the second ring being a corresponding helical thread.

Another example can include the fastening feature of the first ring and of the second ring being a twist-to-lock connection.

Another example can include the fastening feature of the first ring being at least one pin and the fastening feature of the second ring being at least one bore.

Another example can include the cavity of the second ring being annular.

Another example can include the cavity of the second ring extending to the opening.

Another example can include the protrusion of the first ring being annular.

Another example can include the first ring having an overall height measured parallel to the central axis passing through the opening. The protrusion can have a height measured from the radially extending surface to the end of the protrusion and parallel to the axis passing through the opening. The height of the protrusion can be equal to less than half of the overall height of the first ring.

Another example of the system can include a third ring having an overall thickness measured perpendicular to an outer diameter of the third ring, an inner circumferential surface with a diameter and an outer circumferential surface with a diameter, a first surface, a second surface, and a fastener on the outer circumferential surface. The second surface can oppose the first surface. The first surface and the second surface can each radially extend from the inner circumferential surface to the outer circumferential surface. The cavity of the second ring can have a depth, the depth measured from the first surface of the second ring to a bottom surface of the cavity. The overall thickness of the third ring can be no larger than the depth of the cavity of the second ring. The second ring and the third ring can be releasably fastenable to each other using the fasteners to make a fastened state. The first surface of the third ring can abut the bottom surface of the cavity when the second ring and the third ring are in a fastened state. The fastener of the second ring and the fastener of the third ring can be interconnected when the second ring and the third ring are in the fastened state.

Another example can include the second ring having a protrusion extending from a second surface opposite the radially extending surface and a third ring, the third ring having an opening passing through the ring. The third ring can have a surface extending radially from the opening, the radially extending surface of the third ring abutting the second surface of the second ring. The surface extending radially from the opening of the third ring can have a cavity into which the protrusion of the second ring extends.

Another example can include a first ring, the first ring having an inner circumferential surface, an outer circumferential surface, a first surface, a second surface, the first and the second surfaces each radially extending from the inner circumferential surface to the outer circumferential surface, the second surface opposing the first surface, and a fastener on the first surface. The system can also include a second ring, the second ring having an inner circumferential surface, an outer circumferential surface, a first surface, a second surface, the first and the second surfaces each radially extending from the inner circumferential surface to the outer circumferential surface, the second surface opposing the first surface, and a fastener on the first surface. The first ring and the second ring each releasably fasten to each other using the fasteners to make a fastened state. The first surface of the first ring and the first surface of the second ring abut each other when the first ring and the second ring are in the fastened state. The outer circumferential surface of the first ring has an outer diameter, the outer diameter being the largest diameter of the outer circumferential surface of the first ring. The outer circumferential surface of the second ring has an outer diameter, the outer diameter being the largest diameter of the outer circumferential surface of the second ring. The first ring and the second ring each have an edge where the first surface and the outer circumferential surface intersect, the diameter of the edge of the first ring being equal to the outer diameter of the first ring and the diameter of the edge of the second ring being equal to the outer diameter of the second ring.

Another example can include a first ring and a second ring, the first ring and the second ring each having an inner circumferential surface and an outer circumferential surface. The first ring and the second ring each can have a first surface and a second surface, the second surface opposing the first surface. The first and the second surfaces can each radially extend from the inner circumferential surface to the outer circumferential surface. The first ring can have a fastener on the first surface, the fastener being a cavity in the first surface, a depth of the cavity measured from the first surface to a bottom surface. The second ring can have a fastener on the outer circumferential surface. The first ring and the second ring can each releasably fasten to each other using the fasteners to make a fastened state. The bottom surface of the cavity and the first surface of the second ring can abut each other when the first ring and the second ring are in the fastened state. The fasteners of the first ring and the second ring can interconnect when the first ring and the second ring are in a fastened state.

Other embodiments of the system and method are described in detail below and are also part of the present teachings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is an example of the ring system in an assembled state. The main ring and the accessory ring are assembled into one ring assembly using a fastener.

FIG. **2** is an example of the ring system in a disassembled state. The main ring and the accessory ring have helical threads for fasteners.

FIG. **3** is an example of the ring system in a disassembled state. The main ring and the accessory ring have helical threads for fasteners.

FIG. **4** is an example of the ring system in a disassembled state. The main ring and the accessory ring have a tab and slot fastener, also called a twist-and-lock fastener or a bayonet-style fastener.

FIG. **5** is an example of the ring system in a disassembled state. The main ring and the accessory ring have a pin and bore system for a fastener.

FIG. **6** is an example of the ring system in a disassembled state. The main ring and the accessory ring have a magnetic fastener for a fastener.

FIG. **7** is an example of the ring system with a silicone insert ring. The silicone ring is inserted into the main ring.

FIG. **8** is an example of the ring system with a silicone insert in an exploded view.

DETAILED DESCRIPTION

The present teachings are described more fully hereinafter with reference to the accompanying drawings, in which the present embodiments are shown. The following description is presented for illustrative purposes only and the present teachings should not be limited to these embodiments. Any computer configuration and architecture satisfying the speed and interface requirements herein described may be suitable for implementing the system and method of the present embodiments.

In compliance with the statute, the present teachings have been described in language more or less specific as to structural and methodical features. It is to be understood, however, that the present teachings are not limited to the specific features shown and described, since the systems and methods herein disclosed comprise preferred forms of putting the present teachings into effect.

For purposes of explanation and not limitation, specific details are set forth such as particular architectures, interfaces, techniques, etc. in order to provide a thorough understanding. In other instances, detailed descriptions of well-known devices, circuits, and methods are omitted so as not to obscure the description with unnecessary detail.

Generally, all terms used in the claims are to be interpreted according to their ordinary meaning in the technical field, unless explicitly defined otherwise herein. All references to a/an/the element, apparatus, component, means, step, etc. are to be interpreted openly as referring to at least one instance of the element, apparatus, component, means, step, etc., unless explicitly stated otherwise. The steps of any method disclosed herein do not have to be performed in the exact order disclosed, unless explicitly stated. The use of "first", "second," etc. for different features/components of the present disclosure are only intended to distinguish the features/components from other similar features/components and not to impart any order or hierarchy to the features/components.

To aid the Patent Office and any readers of any patent issued on this application in interpreting the claims appended hereto, Applicant that it does not intend any of the appended claims or claim elements to invoke 35 U.S.C. 112(f) unless the words "means for" or "step for" are explicitly used in the particular claim.

Referring to FIG. **1**, an example of the device **10** is shown. A main ring **12** and an accessory ring **14** are shown assembled in a releasably fastened state. FIG. **1** depicts rings that are circular in shape with a uniform cross section around the entire ring. The rings can be non-circular in shape. Both the main ring **12** and the accessory ring **14** can have an inner circumferential surface **13** and an outer circumferential surface **15**.

The rings **12** and **14** can have a non-uniform cross section. Cross sections of the ring can include, but are not limited to, round, square, oval, d-shape, half moon, or any combination of geometric shapes known in the art. The main ring and the accessory ring can have the same or different shapes and/or cross sections.

Although not required, the rings **12** and **14** can have outer circumferential surface **15** profiles that are shaped to blend smoothly into each other when the rings **12** and **14** are in an assembled or secured state. Additionally, the rings **12** and **14** can have various ornamental shapes, grooves, and designs protruding from or formed into the circumferential surface **15** profiles.

The main ring **12** and the accessory ring **14** can be made from materials including, but not limited to, gold, silver, zinc, iron, nickel, platinum, stainless steel, silicon carbide, rose gold, white gold, green gold, bronze, copper, zinc, chrome, zirconium, Damascus steel, iron, steel, aluminum, plated metals, filled metals, metal alloys, plastic, rubber, silicone rubber, wood, bone, stone, precious stone, gemstone, mineral, crystal, glass, or any combination of materials known in the art. The main ring **12** and accessory ring **14** can be made out of the same material or different materials. The main ring **12** and the accessory ring **14** can be made of a homogenous material or a combination of materials. The main ring **12** and the accessory ring **14** can be made by casting, forging, molding, cutting, forming, or any other method of making a ring known in the art.

Referring to FIGS. **2** through **6**, the main ring **12** and the accessory ring **14** are shown disconnected from each other. The main ring has a protrusion **16** that protrudes from a surface **18** of the main ring **12**. This protrusion **16** can be annular or ring-like in shape and completely surround the opening **20** of the main ring **12**. The protrusion **16** can be annular or ring-like in shape, yet not be continuous around the entire opening **20** or the main ring **12**, but instead made up of at least one arcuate protrusion making up only a portion of a ring-like shape. The protrusion **16** can be any number of arcuate protrusions presenting as tabs with spaces between the tabs.

Referring to FIG. **2**, the protrusion **16** can have a helical thread **22** on the outside circumferential surface **25** of the protrusion **16**. The protrusion **16** and helical thread **22** can be sized such that at any number of threads are formed, including partial threads. The number of threads on the protrusion **16** can determine the number of turns required to secure the main ring **12** to an accessory ring **14**.

The helical thread **22** can be a unified national fine thread, unified national course thread, acme thread, square thread, round thread, molded thread, custom-designed thread, proprietary thread, or any other thread known in the art. The thread **22** can have more than one lead. The type of thread can determine the single-thread cross section of the thread **22**.

Referring to FIG. **3**, the accessory ring **14** can have a cavity **24** that extends into the accessory ring **14** from a surface **26** of the accessory ring **14**. The cavity **24** can extend to the inner circumferential surface **13** of the accessory ring or it can not extend to the circumferential surface **13**. An example of the cavity **24** not extending to the circumferential surface **13** is a cavity **24** in the form of an annular groove in the surface **26**. The cavity **24** can be annular in shape and completely surround the opening **28** or the cavity **24** can be annular in shape and not be continuous, instead made up of at least one arcuate cavity.

The cavity **24** can have a helical thread **30** on an outer circumferential surface **32** of the cavity **24**. The helical thread **30** can have a size and shape sufficient to allow the helical thread **30** to interlock with the helical thread **22**. The helical thread **30** can have the same single thread cross section and nominal diameter as the helical thread **22** on the main ring protrusion **16** or a different single-thread cross section and nominal diameter. The helical thread **30** can have any number of threads in order to allow the rings **12** and **14** to be screwed together. The helical thread **30** can have more threads than, less threads than, or the same number of threads as the helical thread **22**. The helical thread **30** can be designed such that when the rings **12** and **14** are screwed together, the surface **18** abuts the surface **26** or there is a space between the surfaces **18** and **26**.

The protrusion **16** can have an inner surface that is larger in diameter than the inner circumferential surface **13**. When the inner surface is larger in diameter than the inner circumferential surface **13**, there can be a female helical thread **22** on an inner circumferential surface of the protrusion **16**. In this case, the accessory ring **14** can have a cavity **24** that does not extend to the inner circumferential surface **13** of the accessory ring **14**. Such a cavity **24** can be described as a groove. Additionally, the accessory ring **14** can have a male helical thread **30** on an inner circumferential surface (not depicted) of the cavity **24** (groove).

The protrusion **16** can have both male and female helical threads **22**, the male thread on an outside circumferential surface **25** of the protrusion and the female thread an inner circumferential surface of the protrusion **16**. Correspondingly, the cavity **24** can have a male helical thread on an inner circumferential surface (not depicted) of the cavity **24** and a female helical thread **30** on an inner circumferential surface **32** of the cavity **24** such that the threads interlock with the threads of the protrusion **16**.

The helical threads **22** and **30** or the protrusion **16** and cavity **24** of the main ring and the accessory ring can be made of the same material as, or materials different from their corresponding rings **12** and **14**. The threads **22** and **30** of the main ring **12** and the accessory ring **14** can be made out of the same material or different materials. The threads can be secured to each other so as to limit relational rotation between the main ring **12** and the accessory **14** through mechanical force, chemical adhesive, additional mechanical fastening device, or any other thread securing method known in the art.

Referring to FIG. **4**, the main ring **12** can have a tab-like protrusion **32** used to secure the main ring **12** to the accessory ring **14**. The tab-like protrusion **32** can have a hooking feature **34** that protrudes from a radially exterior surface **36** of the tab-like protrusion **32**, a radially interior surface **38** of the tab-like protrusion **32**, or separate hooking features **34** that extend from both radially exterior **36** and interior surfaces **38** of the tab-like protrusion **32**.

The tab-like protrusion **32** can be annular and surround the entire opening **20** of the main ring similar to protrusion **16**, or annular and not entirely surround the opening **20** of the main ring. The tab-like protrusion **32** can have one or more hooking features **34** on the radially exterior surface **36** and/or the radially interior surface **38** of the tab-like protrusion.

The rings **12** and **14** can be brought together such that the hooking feature **34** enters an access slot **42** in the inner circumferential surface **13** of the accessory ring **14** and passes to a circumferential slot **40** in the inner circumferential surface **13** of the accessory ring **14**. The rings **12** and **14** can then be rotated in opposite directions from each other, thus moving the hooking element **34** from the free end **44** of the circumferential slot **40** towards the securing end **46** of the circumferential slot **40**.

The rings **12** and **14** can be separated by rotating the rings **12** and **14** so that the hooking feature **34** moves towards the free end **44** of the circumferential slot **40**. Once the hooking feature **34** is lined up with the access slot **42**, the rings **12** and **14** can be separated by axially moving the rings away from each other.

The ring fastening device of FIG. **4** can be referred to as a twist-to-lock or bayonet fastening feature.

Referring to FIG. **5**, the main ring **12** can have a protrusion **16** from surface **18** in the form of at least one pin. The accessory ring **14** can have a cavity **24** in the form of at least one bore. The pin and the bore can be sized such that when the pin is pressed into the bore, a slight resistance is present and the rings **12** and **14** remain secured to each other. In this configuration, the rings **12** and **14** can be separated without tools.

Referring to FIG. **6**, the main ring **12** can have a magnet embedded in the ring and the accessory ring **14** can have magnetic material. The magnet and magnetic material can be situated such that when the surface **18** of the main ring **12** is in close proximity to the surface **26** of the accessory ring **14**, magnetic attraction between the magnet and the magnetic material secures the main ring **12** to the accessory ring **14**. The main ring **12** can have a protrusion **16** which extends into a cavity **24** of the accessory ring to ensure concentricity of the openings **20** and **28** of the main ring **12** and the accessory **14**.

Instead of a magnet embedded into the main ring **12**, either of the rings can be magnetic and the other ring made of a magnetically reactive material.

Mating fasteners often have portions designated as "male" and corresponding portions designated as "female." The male and female portions of the fasteners can be on the main ring and the accessory ring respectively, or vice versa, depending on the aesthetic and/or practical requirements of the main ring and the accessory ring designs.

Below is a practical example of the device disclosed by the present application.

A main ring **12** can be made of platinum, the cross section of the ring band being a rectangle with at least one rounded corner. The rounded corner creating a rounded edge on one of the outer diameter corners of the ring. The other outer diameter edge can be a sharp edge to create a seamless joint between the main ring **12** and an accessory ring **14**. The long edge of the rectangular cross section can travel through the inner diameter of the ring and join two opposing, ring-shaped surfaces of the ring.

The main ring **12** can have a circular opening **20** bounded by an inner circumferential surface **13** through the center of the ring, through which a finger can pass to wear the main ring **12**. The main ring can have a surface **18** extending radially from the inner circumferential surface **13** and intersecting with an outer diameter surface of the main ring **12** at the sharp edge. From the surface **18** there can be a protrusion **16** that is annular in shape and surrounds the circular opening **20** of the main ring **12**. The protrusion **16** can have an outer surface upon or into which helical threads **22** can be formed. The protrusion **16** and the thread pitch can be sized such that multiple threads are formed along the length of the protrusion **16**.

An accessory ring **14** can be made out of **14**K yellow gold, the cross section of the ring band being a square and one corner being rounded. The rounded corner can create a rounded edge on one of the outer diameter corners of the ring. The other outer diameter edge can be sharp to create a smooth transition between the outer circumferential surfaces **15** of the main ring **12** and the accessory ring **14** when the rings **12** and **14** are assembled or secured to each other.

The accessory ring **14** can have a cavity **24** cut into the square cross section and a surface **26**. The cavity **24** can be annular in shape and surround the opening **28** of the accessory ring **14**. The cavity can have an outer diameter surface **32** upon which, or into which, a helical thread **30** can be formed. The cavity **24** and thread pitch can be sized such that multiple threads are formed along the depth of the cavity **24**. The helical thread **30** of the accessory ring **14** can be formed such that they interlock, or thread on to, the helical thread **22** of the main ring **12**.

To secure the main ring **12** to the accessory ring **14**, the helical threads **22** and **30** can be brought into contact, the surfaces **18** and **26** facing each other. The helical threads **22** and **30** can be engaged by rotating one ring **12** or **14** in relation to the other ring **12** or **14** until the surfaces **18** and **26** are abutting. The ring **12** can be secured to the accessory ring **14** to make the assembly **10**, without the use of tools. The main ring **12** can be unsecured from the accessory ring **14** by unthreading of the rings **12** and **14** from each other without the use of tools.

A further example incorporates the example above in its entirety and includes an intermediary ring. The intermediary ring can be made with any of the materials and by any of the processes included in this application. The intermediary ring can have a cavity in a ring-shaped surface of the ring with a helical thread that is formed to mate with the helical thread **22** of the main ring **12**. On an opposing ring-shaped surface, the intermediary ring can have a protrusion similar to the main ring **12**. The intermediary ring can have a helical thread formed on or in a surface of the protrusion, similar to that described on the main ring **12** above. The intermediary

helical thread on the intermediary ring protrusion can be formed to mate with the helical thread **30** of the accessory ring **14**.

The intermediary ring can be secured to the main ring **12** and/or the accessory ring **14** by threading each of the main ring **12** and the accessory ring **14** on the corresponding mating helical thread on the intermediary ring.

A further example herein incorporates the two examples above in their entirety and can include multiple intermediary rings. The intermediary rings can have helical coils whereby multiple intermediary rings can be secured to each other forming a stack of intermediary rings. On one end of the intermediary ring stack a main ring **12** can be secured using the method described above. On the other end of the intermediary ring stack, an accessory ring **14** can be secured using the method above.

The examples above can, instead of a helical thread, include any of the fastening devices and methods disclosed in this application.

Referring to FIG. **7**, an example of the main ring **12** with a cavity **24** is shown with an insert ring **50** inserted into the cavity **24**. The insert ring **50** can have an external helical thread **22** corresponding to the internal helical thread **30** of the main ring. The external helical thread **22** of the insert ring **50** can be of the same thread design standard or a different thread design standard from the helical thread **30** of the main ring **12** as long as the threads **22** and **30** interlock. There can be a resistance fit between the threads **22** and **30**. The helical threads **22** of the insert ring can be formed by molding, cutting, or any other thread forming method.

The insert ring **50** can be constructed from a number of materials including, but not limited to, silicon, plastic, rubber, metal, wood, resin-reinforced fiber composite, hard wax, stone, glass, fiber composite, resin, or any composite of flexible or inflexible, solid materials.

The insert ring **50** is constructed to insert into the cavity **24** of the main ring **12** to protect a wearer of the main ring **12** from the exposed threads and edges of the cavity **24** of the main ring **12**. The insert ring **50** inner diameter surface **13** can be the same inner diameter **13** as the main ring **12** or a slightly different diameter to aid in wearability of the main ring **12**. The insert ring **50** can protrude axially, perpendicular to the radial direction of the ring, from the main ring **12** or lay flush with the surface of the main ring perpendicular to a central axis through the main ring **12** inner diameter.

The insert ring **50** can have tool accepting features that provide surfaces with which an insertion/removal tool can interact. These tool accepting surfaces can include, but are not limited to, blind holes, radial grooves, annular slots, knurls, detent holes, or any other feature known in the art for providing a surface against which a tool can engage an object to rotate the object.

Referring to FIG. **8**, an example of the insertion ring **50** and the main ring **12** is shown in an exploded view. The exterior helical threads **22** are more clearly shown in FIG. **8**.

The examples, and combinations thereof, of the disclosed device can be applied to an engagement ring. The connecting ring device is uniquely suited to the engagement ring application because often a wedding ring is provided to be worn on the same finger as an engagement ring. Any ring of the connected ring assembly can be an engagement ring. This engagement ring can be attached to another ring, including a wedding ring, with the above-referenced fasteners. Configurations of the wedding and engagement rings can vary. The engagement ring and wedding ring can have varying shapes, ornamental protrusions, ornamental embossments, ornamental markings, gem stones, engravings, or any other structural feature known in the art of ring making.

What is claimed is:

1. A ring system comprising:

a first ring and a second ring, the first ring and the second ring each having an inner circumferential surface and an outer circumferential surface;

the first ring and the second ring each having a first surface and a second surface, the second surface opposing the first surface;

the first ring and the second ring each having a fastener on the respective first surfaces, the first ring and the second ring each releasably fastenable to each other using the fastener of the first ring and the fastener of the second ring to make a fastened state;

the first and the second surfaces of the first and second rings each radially extending from the inner circumferential surface to the outer circumferential surface of the first and second rings;

the first surface of the first ring and the first surface of the second ring abutting each other when the first ring and the second ring are in the fastened state;

each outer circumferential surface of the first and second rings having an outer diameter, the outer diameter being the largest diameter of the outer circumferential surface;

the first ring and the second ring each having a circumferential edge where the first surface and the outer circumferential surface of the first and second rings intersect, respectively, each circumferential edge having a diameter, the diameter of the circumferential edge of the first ring being equal to the outer diameter of the first ring and the diameter of the circumferential edge of the second ring being equal to the outer diameter of the second ring;

the fastener of the first ring having a protrusion, the protrusion having an outer circumferential surface smaller in diameter than the outer diameter of the first ring; and

the first surface of the second ring having a cavity into which the protrusion of the first ring extends;

a third ring having an overall thickness measured perpendicular to an outer diameter of the third ring, an inner circumferential surface with a diameter and an outer circumferential surface with a diameter, a first surface, a second surface, and a fastener on the outer circumferential surface;

the second surface of the third ring opposing the first surface of the third ring;

the first surface and the second surface of the third ring each radially extending from the inner circumferential surface to the outer circumferential surface of the third ring;

the cavity of the second ring having a depth, the depth measured from the first surface of the second ring to a bottom surface of the cavity;

the overall thickness of the third ring being no larger than the depth of the cavity of the second ring;

the second ring and the third ring releasably fastenable to each other using the fastener of the second ring and the fastener of the third ring to make a fastened state;

the first surface of the third ring abutting the bottom surface of the cavity when the second ring and the third ring are in a fastened state; and

the fastener of the second ring and the fastener of the third ring interconnected when the second ring and the third ring are in the fastened state.

2. The system of claim **1**, further comprising:

the fastener of the first ring having a magnet; and

the fastener of the second ring having magnetic material.

3. The system of claim **1**, further comprising:

the fastener of the first ring having magnetic material; and

the fastener of the second ring having a magnet.

4. The system of claim **1**, further comprising the fasteners of the first ring and of the second ring having corresponding helical threads.

5. The system of claim **1**, further comprising the fasteners of the first ring and of the second ring having a corresponding bayonet connection.

6. The system of claim **1**, wherein the fastener of the first ring is at least one pin and the fastener of the second ring is at least one bore.

7. The system of claim **1**, wherein the cavity of the second ring is annular.

8. The system of claim **1**, wherein the cavity of the second ring extends to the inner circumferential surface of the second ring.

9. The system of claim **1**, wherein the protrusion of the first ring is annular.

10. The system of claim **1**, further comprising:

the first ring having an overall thickness measured perpendicular to the outer diameter of the first ring;

the protrusion of the first ring having a thickness measured perpendicular to the outer diameter of the first ring and from the first surface of the first ring to an end of the protrusion of the first ring; and

the thickness of the protrusion of the first ring equal to less than half of the overall thickness of the first ring.

11. A ring system comprising:

a first ring and a second ring, the first ring and the second ring each having an inner circumferential surface and an outer circumferential surface;

the first ring and the second ring each having a first surface and a second surface, the second surface opposing the first surface;

the first and the second surfaces of the first and second ring each radially extending from the inner circumferential surface to the outer circumferential surface of the first and second ring, respectively;

the first ring having a fastener on the first surface, the fastener of the first ring being a cavity in the first surface of the first ring, a depth of the cavity measured from the first surface of the first ring to a bottom surface of the cavity;

the second ring having a fastener on the outer circumferential surface of the second ring;

the first ring and the second ring each releasably fastenable to each other using the fastener of the first ring and the fastener of the second ring to make a fastened state;

the bottom surface of the cavity and the first surface of the second ring abutting each other when the first ring and the second ring are in the fastened state;

the fasteners of the first ring and the second ring interconnecting when the first ring and the second ring are in a fastened state.

12. The system of claim **11**, further comprising:

the fastener of the first ring having a magnet; and

the fastener of the second ring having magnetic material.

13. The system of claim **11**, further comprising:

the fastener of the first ring having magnetic material; and

the fastener of the second ring having a magnet.

14. The system of claim **11**, further comprising the fastener of the first ring and of the second ring having corresponding helical threads.

15. The system of claim **11**, further comprising the fastener of the first ring and of the second ring having a corresponding bayonet connection.

16. A ring system comprising:

a first ring and a second ring, the first ring and the second ring each having an inner circumferential surface and an outer circumferential surface;

the first ring and the second ring each having a first surface and a second surface, the second surface opposing the first surface;

the first ring and the second ring each having a fastener on the respective first surfaces, the first ring and the second ring each releasably fastenable to each other using the fasteners of the first and second ring to make a fastened state;

the first and the second surfaces of the first and second ring each radially extending from the inner circumferential surface to the outer circumferential surface of the first and second ring;

the first surface of the first ring and the first surface of the second ring abutting each other when the first ring and the second ring are in the fastened state;

each outer circumferential surface of the first and second ring having an outer diameter, the outer diameter being the largest diameter of the outer circumferential surface;

the first ring and the second ring each having a circumferential edge where the first surface of the first and second ring and the outer circumferential surface of the first and second ring intersect, respectively, the diameter of the edge of the first ring being equal to the outer diameter of the first ring and the diameter of the edge of the second ring being equal to the outer diameter of the second ring;

the second ring having a protrusion extending from the second surface of the second ring;

a third ring, the third ring having an inner circumferential surface and an outer circumferential surface;

the third ring having a first surface and a second opposing surface, the first and second surfaces of the third ring each extending radially from the third ring inner circumferential surface to the third ring outer circumferential surface;

the second ring having a second fastener on the second surface of the second ring and the third ring having a fastener on the first surface, the second ring and the third ring releasably fastenable to each other using the second fastener of the second ring to the fastener of the third ring to make a fastened state; and

the second surface of the second ring and the first surface of the third ring abutting each other when the second ring and the third ring are in the fastened state.

17. The system of claim **16**, further comprising:

the fastener of the first ring having a magnet; and

the fastener of the second ring having magnetic material.

18. The system of claim **16**, further comprising:

the fastener of the first ring having magnetic material; and

the fastener of the second ring having a magnet.

19. The system of claim **16**, further comprising the fastener of the first ring and of the second ring having corresponding helical threads.

20. The system of claim **16**, further comprising the fastener of the first ring and of the second ring having a corresponding bayonet connection.

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